What is claimed is:

1. A method, comprising:

moving a shadow across a three-dimensional scene;

imaging said moving shadow; and

determining three dimensional information about the scene from the moving shadow.

2. A method as in claim 1, wherein said imaging comprises using a camera to obtain an image of the moving shadow.

3. A method as in claim 2, further comprising determining a transformation between an image plane of the camera and actual plane comprising the three-dimensional scene.

4. A method as in claim 1, wherein said determining comprises triangulating to form information indicative of points on the three-dimensional scene.

5. A method as in claim 4, further comprising an initial operation of calibrating a position of a light source.

6. A method as in claim 4, further comprising an initial operation of calibrated a position of a plane on which the three-dimensional scene is located.

7. A method as in claim 6, wherein said imaging said moving shadow comprises determining a shadow time at each of a plurality of image elements, and locating a projection of the shadow in a plane of a camera used to obtain an image of the moving shadow.

8. A method as in claim 7, further comprising converting said projection into actual shadow information.

9. A method as in claim 5, wherein said calibrating a position of the light source comprises imaging an item of known height by defining a position of its shadow, and triangulating a position of the light source.

10. A method as in claim 1, wherein said determining comprises converting information into a dual-space representation, and calculating said information in said dual space representation.

11. A method as in claim 1, wherein said determining comprises obtaining images of different edges at different locations, and using information about the intersection to form three-dimensional information.

12. A method comprising:

obtaining an image of the shadow on a three-dimensional scene using an image acquisition element; and

converting said image using additional information, to determine actual three dimensional information about the three-dimensional scene.

13. A method as in claim 12, wherein said additional information is a position of a light source.

14. A method as in claim 12, wherein said additional information is a position of a reference plane.

15. A method as in claim 14, wherein said reference plane is a single reference plane.

16. A method as in claim 14, wherein said additional information about said reference plane inlcudes a position of two different reference planes.

17. A method as in claim 12, wherein said additional information is information about a shadow of unknown object of known height.

18. A method as in claim 12, wherein said additional information is information from a second light source.

19. A method as in claim 12, wherein said additional information is information from a second shadow.

20. A method as in claim 14, further comprising a calibration operation that determines a position of the reference plane.

21. A method as in claim 12, wherein said converting comprises converting a projection of the shadow into actual shadow information.

22. A method as in claim 13, further comprising obtaining an object of known high, obtaining as shadow of said object, and using said shadow to determine the position of the light source.

23. A method as in claim 12, wherein said additional information is information which propagates between edges of the image.

24. A method as in claim 12, wherein said shadow is formed by two separate light sources.

25. A method as in claim 12, wherein said converting comprises defining said shadow as a set of edges ϵ, and a set of intersection points pk.

26. A method of imaging a three-dimensional surface, comprising:

projecting a moving shadow across the three-dimensional surface to the imaged;

obtaining an image of the moving shadow at each of a plurality of times;

determining a relationship between the image and the three-dimensional surface at each of the plurality of times; and

converting said image into information of the three-dimensional surface.

27. A method as in claim 26, wherein each image includes a line of the shadow, including a plurality of points p, which represent points P on the three-dimensional surface.

28. A method as in claim 27, wherein said converting comprises triangulating between a reference plane of an imaging object and a reference plane of the three-dimensional surface.

29. A method as in claim 28, wherein said triangulating includes determining a position of a light source, and determining a reference plane between said light source and a line of the moving shadow.

30. A method as in claim 28, wherein said converting comprises determining positions of horizontal and vertical reference planes, and triangulating using said positions.

31. A method as in claim 30, wherein said determining positions comprises determining positions of at least one plane by a calibration operation.

32. A method as in claim 29, wherein said determining a position of a light source comprises using an object of known high to triangulating a position of a light source, by obtaining a shadow of the object of known height.

Thirty-three. A method as in claim 26, wherein said converting comprises converting the information obtained into dual space, and calculating the values obtained in the dual space representation.

34. A method as in claim 26, wherein said converting comprises determining three-dimensional information about three points in the image, and determining all other points from said determining three points.

35. A method as in claim 26, wherein said obtaining comprises using a camera to obtain said image, and wherein said converting comprises determining information about the camera reference plane, and converting said image using said information about the camera reference plane.